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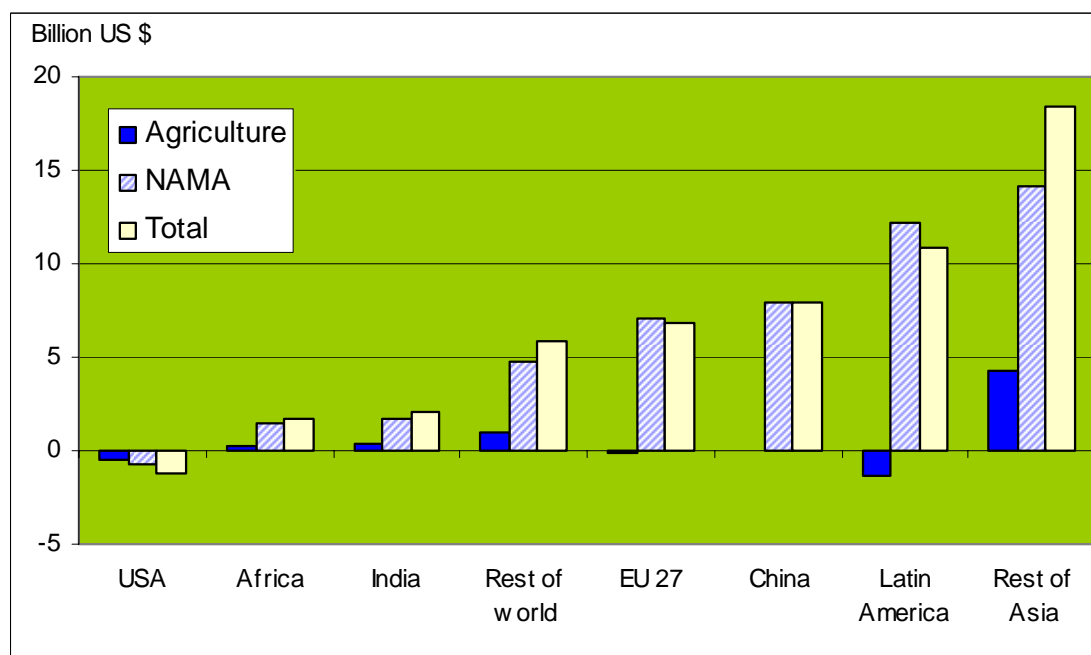
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Short note on the Falconer Draft on Modalities in the WTO Agricultural Negotiations

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The Agriculture and NAMA Drafts will lead to global welfare gains of 4 and 48.5 billion US \$, respectively



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1. Introduction

The Chairman of the World Trade Organizations (WTO) agriculture negotiations, the New Zealand ambassador Crawford Falconer, and the Chairman of the non-agricultural market access (NAMA) negotiations, the Canadian ambassador Don Stephenson, issued drafts on modalities on February 8, 2008. These drafts present the latest attempt to combine the positions of the WTO member countries on the salient elements in the negotiations into a compromise proposal from which the talks towards a final agreement can proceed.

Originally, the declaration from Doha that launched the present round of trade negotiations, November 14, 2001, stipulated that modalities within agriculture were to be agreed upon no later than March 31, 2003. As is apparent, agreement on modalities were not reached by that date. The Cancun ministerial conference in September 2003 ended abruptly without consensus. Nevertheless, at August 1, 2004, an agreement concerning the framework for modalities was reached along with an extension of the initial deadline, January 1, 2005, for the Doha round of negotiations. Although not specifically a modalities agreement this so-called “July framework package” contained an overall outline of future more detailed reduction commitments. In Hong Kong, December 2005, the ministerial declaration presented a new imminent deadline for modalities for both agriculture and NAMA to be April 20, 2006. Nonetheless, this deadline also turned out to be too ambitious. Against this background, the new attempt at compromise proposals presented imbues some hope into the negotiations that an agreement might eventually be reached.

Although the Doha negotiations have been in a state of limbo for several years, agricultural policies have developed. Particularly, the European Union has reformed its domestic support regime considerably and promised to phase out export subsidies by 2013. The mid-term review of the EU agricultural policy from 2003 converted hectare and animal premiums into single farm payments, and thereby removed most of EU domestic support from the blue box and transferred it to the allowed green box category. Along with the promise to phase out export subsidies two major areas of contention in the Doha negotiations have been settled at least from the European view. In spite of this fairly comprehensive reform towards more decoupled support developing countries in general consider the over-all amount of agricultural support in developed countries to be a focal issue in the negotiations. It can be argued that no support is entirely decoupled and will have some albeit small effect on production decisions, wherefore even green box support should be disciplined to some extent. Nevertheless, the distance between the EU and developing countries in general on domestic support and export subsidies has been reduced considerably. The US, on the other hand, that has upheld a fairly liberal position hitherto in the negotiations seem to be moving in the opposite direction with the Farm Bill 2008 underway through Congress. Nevertheless, the EU with its insistence on the right to designate as much as 4-6% of tariff lines as sensitive shows reluctance in offering substantial concessions on the much contested issue of market access. This position, however, is reciprocated by the big fast-growing economies of the developing world that displays a like stern aversion towards relaxing their considerable entry barriers for NAMA products.

The present state of affairs in the WTO can be characterised as a stale-mate where the major players, the EU, the USA, Brazil and India backed up by various countries each seem intend on not admitting any substantial concessions fearing they might not get similar concessions from the other side. The EU and the US demand more open access to particularly the countries with large and fast-growing economies, specifically China, India and Brazil. The latter countries, however, insist that

the EU and the US show a genuine will towards opening up for agricultural imports. Furthermore, even the big fast-growing economies demand quite comprehensive Special and Differential Treatment (SDT) in line with the other developing countries, a demand that has made the negotiations in the Trade and Development committee under the WTO where SDT negotiations are meant to take place very difficult. Likewise, the process towards increased trade among developing countries themselves is not showing any significant signs of progress. The south-south trade debate is to a large extent clouded by the discussions between the developed countries and the big middle-income countries. In short, the EU and the US are prepared to concede quite extensive SDT provisions for poor African and Asian economies but are not willing to let China, India and Brazil obtain the same.

The consequences of not reaching an agreement in the WTO negotiations are already apparent. Countries all over the world are increasingly forming bilateral and regional trade arrangements. This can only lead to a more bureaucratic and non-transparent international trade regime to the detriment of all countries but in particular developing countries. Furthermore, how disputes are settled within these numerous trading arrangements are not at all clear, whereas one of the major benefits of the WTO is the legal system known as the Dispute Settlement Mechanism where conflicts can be arbitrated and eventually adjudicated. In fact, the WTO is one of the more apparent successes in the arena of international cooperation. And it would be a major loss and to the detriment of all countries if the WTO becomes more and more peripheral due to the inability of the members to reach an agreement and due to the prevalence of a range of other trading arrangements.

2. The Falconer Draft

Ambassador Falconer, Chairman of the Special Session of the Committee on Agriculture, issued a text on modalities for agriculture February 8, 2008. The intention of the text is to outline the room within which the Chairman sees the WTO member's positions in the negotiations are placed. Subsequently, the text is intended to alleviate the negotiations by focusing and narrowing the discussions around the contended issues.

Domestic support

In the July framework package an agreement was reached regarding the formula to be used for reducing domestic support. Trade-distorting support is to be reduced according to a tiered formula. However, the required cuts in each tier have yet to be agreed upon. The Falconer Draft stipulates cuts. A new WTO term, on top of the quite numerous other specific WTO terms, is defined called OTDS (Overall Trade-Distorting Domestic Support), which consists of Aggregate Measure of Support (AMS), de minimis and blue box or put differently, the amber plus the blue box. The reduction schedules for each of the three tiers are proposed be either of the following alternatives:

- a) 75-85% for OTDS greater than 60 billion US \$
- b) 66-73% for OTDS greater than 10 billion US \$
- c) 50-60 % for OTDS greater less than 10 billion US \$

For developing countries SDT provisions advocated in the Draft are required to undertake two-thirds of the reductions. However, several country groups are now recognised as not required to undertake any reductions. These are:

- i) Developing country members with no Final Bound Total AMS commitments
- ii) Net food-importing countries
- iii) Very Recently-Acceded Members
- iv) Small low-income Recently Acceded Members
- v) Least-Developed Countries

Final Bound Total AMS are also scheduled for reductions according to a tiered formula:

- a) AMS greater than 40 billion US \$ is reduced by 70 %
- b) AMS greater than 15 billion US \$ is reduced by 60 %
- c) AMS less than 15 billion US \$ is reduced by 45 %

The SDT provisions for developing country members are the same as under OTDS. Thus, the same country groups are recognised as being exempted from any reductions in AMS

Furthermore, the SDT provisions for both OTDS and AMS also allow for longer implementation periods for developing countries.

Provisions for Blue Box support now comes in two categories (a) and (b). Each member country is required to select one category for which all of its Blue Box support must comply. Blue Box (a) contains direct payments under production-limiting programmes and Blue Box (b) contains direct payments that do not require production. Permitted Blue Box support is limited to 2.5% of the value of agricultural production in the base period. However, for members that has placed more than 40% of its trade-distorting support in the Blue Box in the base period (e.g. Norway), the Blue Box support shall be reduced equivalently with the percentage reduction in the member's AMS. Furthermore, product-specific limits are introduced for Blue Box support with special provisions for the US. In all, the Blue Box paragraph in the Draft gives the impression that this point is quite contested and with some distance between members' positions.

For Cotton, specifically, the Draft proposes a specific formula for reducing support, which ensures quite a substantial reduction.

Overall, the reduction commitments appear to be fairly ambitious for specifically developed countries. However, most of the trade-distorting support has been reformed quite comprehensively since the end of the Uruguay Round. Thus, the resulting reductions on applied support today will be quite small. For instance, the EU that used to have a very large support under the Blue Box and also Amber box category has moved this support to the Green Box through reform efforts. Thus, most if not all EU support is exempt from reduction commitments. For the US, much depends on the reform of the Farm Bill. However, the current status on the Farm Bill negotiations does not point unequivocally towards a more liberal direction.

Market Access

The Market access reduction suggestions likewise follow the tiered formula approach. The reduction commitments fall in four tiers:

- a) Final bound tariffs greater than 0 and less than 20 % (30% for developing countries) are reduced by 48-52% (2/3 of this cut for developing countries)
- b) Final bound tariffs greater than 20 % (30% for developing countries) and less than 50 % (80% for developing countries) are reduced by 55-60% (2/3 of this cut for developing countries)
- c) Final bound tariffs greater than 50 % (80% for developing countries) and less than 75 % (130% for developing countries) are reduced by 62-65% (2/3 of this cut for developing countries)
- d) Final bound tariffs greater than 75 % (130% for developing countries) are reduced by 66-73% (2/3 of this cut for developing countries)

Furthermore, a minimum overall average cut is introduced at 54% for developed countries and a maximum required 36 % reduction for other countries. Again several specific country groups are recognised that are exempt or only required to make moderate cuts.

Concerning the debated issue of sensitive products it is suggested that developed countries are given the right to designate 4-6% of tariff lines as sensitive or where a member has more than 30% of its tariff lines in the top band up to 6-8%. Reduction commitments for sensitive products are reduced from the tiered formula with up to two-thirds. Developing countries are given the right to increase the number of sensitive products with one-third.

The TRQ (Tariff Rate Quota) system introduced in the Uruguay round is aimed at providing new access opportunities of 4-6% of domestic consumption for developed countries. Furthermore, the TRQ access is increased equivalently for products designated as sensitive and dependent upon the tariff reduction chosen for the sensitive product. Overall, the paragraph on TRQs shows that this issue is contested and quite detailed and complex conditionalities are needed for various TRQ provisions. SDT is introduced for developing countries and for subsistence production.

The market access paragraph also contains a number of other issues:

- Tariff escalation with a formula that is applied to a list of products and other detailed provisions conditional on a number of factors
- Tariff simplification with a general rule of not introducing more complex tariffs and having at least 90% of bound tariffs in ad valorem form
- In-quota tariff reduction commitments
- Tariff quota administration simplification
- Special safeguard mechanism reduced or eliminated for developed countries
- Special products designated by developing countries based on indicators concerning food security, livelihood and rural development
- Higher tariff reductions for tropical and diversification products
- No tariff cuts for 10 years for preference products
- Free access for Cotton exports from LDCs

The Market Access paragraph is the most complex issue left in the negotiations, which is made abundantly clear by the paragraph in the Falconer Draft. Quite a large number of deviations from the general rules are apparently needed both in terms of different country group exemptions and also product exemptions. The Falconer Draft presents various lists of products that are applied for

different articles. The Chairman has apparently found that an agreement on general rules applicable to all WTO member countries is not achievable in the area of market access. Hopefully, the increased complexity of a probable agreement outlined in the Draft serves to ensure that an agreement is actually reached.

Export Competition

The previously much contested issue of export subsidies appears to have been settled. This paragraph in the Falconer Draft is quite short and with clear and general provisions with very few exceptions. Export subsidies are to be phased out. The issues of Export Credits, State Trading Enterprises and Food Aid are subjected to comply with specific provisions.

General conclusion

The Draft provides a bold effort at summarising and outlining the position of the members. But it also makes clear that much work is still needed by the negotiators. Just counting the number of brackets, which indicate items not agreed upon, reach a total of 229 in the Falconer Draft. Nevertheless, the Draft can hopefully serve as a point of departure in the ensuing negotiations and the concrete formulation of the contested issues can help focusing the negotiators efforts. Although some issues still remains to be agreed upon concerning the area of domestic support, the Draft text on the area of market access vividly shows that the most controversial issues remain within this field.

3. Model analysis

This section presents the outcome of a quantitative analysis on the countries of the world as a consequence of the revised draft modalities for agriculture and non-agricultural market access in terms of macroeconomic, trade and distributional effects.

The GTAP analysis

Model, database and Doha scenario

The economic analysis is based on an economic model of the world economy with particular emphasis on global trade and production covering 38 different product categories (of which 12 are primary agricultural products and 8 are processed food products) in 39 countries/regions. The starting point of the analysis is the so-called Global Trade Analysis Projects (GTAP) database and model. The database is the most recent Version 6 GTAP database with the base year 2001 (Dimaranan et al., 2005), where the 2001 tariff data originating from the Market Access Maps (MacMap) HS6 database has been used with some verification and minor modifications.

Like any applied economic model, this model is, of course, based on assumptions, both in terms of theoretical structure as well as the specific parameters and data used. Regional production is generated by a constant return to scale technology in a perfectly competitive environment, and the private demand system is represented by a non-homothetic demand system (a Constant Difference Elasticity function)². The foreign trade structure is characterized by the Armington assumption implying imperfect substitutability between domestic and foreign goods.³

The global database combines detailed bilateral trade, transport and protection data characterising economic linkages among regions, together with individual country input-output databases which account for intersectoral linkages within regions. The applied ad valorem equivalents (AVEs) tariff data found in the standard GTAP Version 6 databases originate from the Market Access Maps (MacMap) database, which is compiled from UNCTAD TRAINS data, country notifications to the WTO, AMAD, and from national customs information. The MacMap database contains bound, Most Favoured Nation (MFN) and bilateral applied tariff rates (both specific and ad valorem) at the 6-digit Harmonised Systems (HS6) level which are aggregated to GTAP concordance using trade weights compiled from the COMTRADE database.

Updating the database 2001 – 2015

² Hence the present analysis abstracts from features such as imperfect competition and increasing return to scale, which may be important in certain sectors. We are therefore using what can be thought of as a base GTAP structure.

³ The macroeconomic closure is a neoclassical closure where investments are endogenous and adjust to accommodate any changes in savings. This approach is adopted at the global level, and investments are then allocated across regions so that all expected regional rates of return change by the same percentage. Although global investments and savings must be equal, this does not apply at the regional level, where the trade balance is endogenously determined as the difference between regional savings and regional investments. This is valid as the regional savings enter the regional utility function. The quantity of endowments (land, labour and natural resources) in each region is fixed exogenously within the model, although. The capital closure adopted in the model is based on the theory where changes in investment levels in each country/region become on-line instantly, updating the capital stocks endogenously in the model simulation³. Finally, the numeraire used in the model is a price index of the global primary factor index.

The GTAP database version 6 uses 2001 as the base year. A number of important developments have taken place since then or are planned for the immediate future preceding implementation of a Doha round. In order not to attribute the effect of such developments to the Doha round scenario analysed in this paper, we update/project the database from 2001 to the year 2015, by conducting a “presimulation” that involves implementing the assumptions listed in Box 1 below. We then take the resulting data set from the presimulation as the base for our Doha analysis.

Box 1. Assumptions used to update/project the database to 2015.

Projections of the world economy from 2001 to 2015

- Regional GDP, capital, labor force and population growth together with regional specific total factor productivity increases.

Trade policy changes (updating initial 2001 tariff structure)

- Final implementation of the UR commitments for developing countries;
- Accession of China to the WTO;
- Enlargement of the EU customs union to include 12 new members;
- Changing the applied tariffs face by the new EU member countries in non-members countries to EU rates;
- Extension of the EFTA agreement to include 12 new member countries;
- Everything But Arms (EBA) Agreement between LDCs and the EU27;
- The implementation of the TDCA agreement between South Africa and the EU27
- The implementation of the AGOA on textiles and wearing apparel;
- An update of Indian’s applied MFN tariff rates to the latest year available;
- Final implementation of the NAFTA agreement;
- Abolishment of export quotas on textiles and wearing apparel;

Domestic policy changes

- A stylized implementation of the Mid-Term Review Reform of the CAP’s, decoupling of direct payments to a single farm payment in the EU27;
- No sugar and milk quotas in the EU27
- EU CAP budgetary expenditure fixed in nominal terms
- USA agricultural subsidies (expenditure) fixed in nominal terms at its 2001 level

Doha assumptions

The Doha analysis in this paper involves both modalities for agriculture and Non-Agricultural Market Access (NAMA). The simulation undertaken follow the revised draft modalities outlined in the two papers published by the negotiating group on market access and the committee on agriculture special session.

Agriculture

In the agricultural case, we use the tiered market access formula allowing developed countries take out six percent of their tariff lines as sensitive products while developing countries are allowed to exclude eight percent of their tariff lines at the Hs6 digit level (Table 1)⁴.

Table 1: Reductions in final bound tariffs

Developed countries			Developing countries		
		Tariff cut (%)			Tariff cut (%)
		6%			8%
Tariff rate (%)		sensitive	Tariff rate (%)		sensitive
Greater than 75	70.0	35.0	Greater than 130	46.6	23.3
Between 50.01 and 75	65.0	32.5	Between 80.01 and 130	43.3	21.6
Between 20.01 and 50	60.0	30.0	Between 30.01 and 80	40.0	20.0
From 0 to 20	50.0	25.0	From 0 to 30	33.0	16.6
Min. average cut 54%			Max. average cut 36%		

Sensitive products are reduced by one-half of the reduction that otherwise would have been required by the tiered formula. We implement this sensitivity rule assuming that the tariff lines with the highest applied rates are most sensitive and therefore the ones chosen to have their bound rates reduced at the lower one-half cut rate⁵.

In the revised draft modalities for agriculture the 151 WTO members are divided into five different classes of countries each with different reduction commitments. In the analysis undertaken in this paper we have implemented the following reduction commitments for these groups of countries:

Developed countries:

- Reduced bound tariffs using the tiered formula shown in Table 1 above
- Six percent sensitive products reduced by one-half of the rate which otherwise would be required.
- Tropical products listed in Annex G of the revised draft modalities for agriculture are reduced by 85 per cent if the ad valorem tariff is above 25 per cent or else they are reduced to zero if the tariff is equal to or below 25 percentage points. There are no sensitive product treatments for these products appearing on the annexed list⁶.
- Less developed countries are granted duty and quota free access.

Developing countries

- Reduced bound tariffs using the tiered formula shown in Table 1 above.
- Eight percent sensitive products reduced by one-half of the rate which otherwise would be required.

Small Vulnerable Economies

⁴ The HS6 nomenclature is an international standard for classifying products into aggregated product groups. The classification scheme contains about 5000 product groups, is maintained by the World Customs Organization (WCO) and is used for specifying tariff schedules.

⁵ There are of course many other ways to choose sensitive product at the HS 6 digit level.

⁶ In the case of rice and processed rice tariffs into Japan and Korea, these are not reduced in the model simulations. This is because these are prohibitive tariffs between 500 – 1000 percentage points. Reducing these tariffs in the model would overstate the impact these cuts would have because they are well above the lowest tariff rate that would drive imports to zero.

- Reduced bound tariffs using the tiered formula shown in Table 1 for developing countries but with the cuts moderated by 10 ad valorem percentage points in each band. Eight percent sensitive products.

Recently Acceded members

- Reduced bound tariffs using the tiered formula shown in Table 1 for developing countries but with the cuts moderated by 7.5 ad valorem percentage points in each band. Eight percent sensitive products
- Recently acceded members, Saudi Arabia, Former Yugoslav Republic of Macedonia, Vietnam, Tonga, Albania, Armenia, Georgia, Kyrgyz Republic, Moldova and Jordan do not make any cuts in bound rates.

Less developed countries

- Make no reductions in bound tariffs.
- Gain duty and quota free access into the develop country markets.

Note that among other things we have not included in the analysis the expansion of tariff rate quotas or checked if the minimum, maximum average cut requirements are fulfilled.

With regard to agricultural export subsidies we have reduced all export subsidies found in the GTAP database to zero, while there is no change to domestic support in our Doha scenario. The MTR reform of the CAP has already taken place and further reductions in the domestic support in other countries is assumed to be done by reducing administered prices without any real effect on trade.

NAMA

In the Non Agricultural Market Access reform we use the simple Swiss formula with coefficients 8 and 20 for respectively developed and developing countries, including newly acceded members. Developing countries and newly acceded countries are allowed to exclude up to five percent of their tariff lines if it does not exceed five percent of their value of imports. Non-bound tariff are bound by adding 25 percentage points (mark up) to the MFN rate. The so-called Paragraph 6 countries and small vulnerable countries are not required to make any reductions in their applied tariffs but have to bind all their tariffs so that the simple average of all NAMA tariff lines do not exceed respectively 28.5 and 22 percent on average. LDCs are not required to do anything by way of reform themselves, but gain duty-free access into developed countries markets for non-agricultural products.⁷

The scenario is detailed below:

- Least developed countries : LDCs are exempt from making any commitments.
- Paragraph 6 countries: Countries with less than 35 percent binding coverage are exempt from making tariff reductions through the Swiss formula. They are, however, expected to bind 95 percent of non-agricultural tariff lines at an average level that does not exceed the overall

⁷ Most LDCs already effectively have this quota- and duty-free access into the EU under the Everything But Arms (EBA) agreement (except for rice and sugar), and most African countries have similar preferential access into the US under AGOA.

average of bound tariffs for all developing countries after full implementation of current concessions. This level is calculated as 28.5 percent.

- Small vulnerable economies: These countries are exempt from making tariff reductions through the Swiss formula, although they must bind 95 percent of non-agricultural tariff lines at an average level that does not exceed 22 percent.
- Newly acceded members and developing countries: These implement the Swiss formula with a coefficient value of 20. They do, however, have the flexibility of retaining unbound tariffs or formula cut exemptions for up to 5 percent of all lines, as long as the lines do not exceed 5 percent of the member's total import value.
- Developed countries: These countries implement the Swiss formula with a coefficient of 5 and they must grant duty-free and quota-free market access for non-agricultural products originating from LDCs.

The general instrument for specifying tariff reduction commitments is the so-called simple Swiss formula, defined as:

$$t_1 = \frac{(a \text{ or } b) \times t_0}{(a \text{ or } b) + t_0}$$

where,

t_1 =	Final bound tariff
t_0 =	Base rate
a =	Coefficient for developed Members (= 8)
b =	Coefficient for developing Members subject to the formula (= 20)

The base rate is given as the current bound rate or, in the case of unbound tariff lines, the MFN rate plus a constant mark-up of 25 percentage points. The Swiss formula is constructed in such a way that the highest tariffs are reduced the most, thus eliminating tariff peaks. Also, the final bound tariffs will be no higher than the coefficient used in the formula, i.e. 25 percent for developing and 8 percent for developed countries.

Implementing the scenarios

To implement the Doha analysis, we use tariff data for the year 2001, obtained from the MAcMap database. This is the same data used in the GTAP database and our tariff calculations are therefore directly compatible with standard GTAP tariff data.⁸ The NAMA product coverage follows the chairman's proposal for an agreed list of Non-Agricultural products in the HS6 (2002 revision) nomenclature (WTO 2006b) where we make the assumption that products not on this list fall under agriculture

⁸ In order to avoid a "mis-marriage" of data with our calculated shocks to the data base, we have first aggregated the MAcMAP database up to GTAP concordance without making any changes to the tariffs. We have then incorporated these tariffs into the initial GTAP data base before we began our update and NAMA reduction scenarios.

For bound, MFN and applied tariffs, the MAcMap database reports *ad valorem* tariffs and *ad valorem* equivalents of specific tariffs. *Ad valorem* tariffs specify a duty as a percentage of the trade flow's value. A specific tariff is expressed as a fixed amount per unit of import that has been converted into a value percentage using a unit value (the calculation of the *ad valorem* equivalents was done by CEPII when compiling the MacMap database). The total *ad valorem* equivalent (AVE) tariff applied to a given trade flow is thus the corresponding *ad valorem* and AVE specific tariff added together.

In order to analyse the economic consequences of the Doha trade reform, we need to calculate how the reform changes applied tariffs. First, we apply the tiered/Swiss formula to pre-Doha bound *ad valorem* and AVE specific tariffs separately. The resulting post-Doha bound tariffs are compared to pre-Doha applied tariffs. Any applied *ad valorem* or specific tariff, which is higher than the corresponding post-Doha bound tariff, is reduced to this new bound level. In effect, we lower the tariff ceiling and cut off of all applied rates hitting the ceiling. Finally, we add applied *ad valorem* and AVE specific tariffs to obtain a total post-Doha AVE applied tariff.

This general procedure is subject to a range of exceptions for certain countries as described above.

Welfare effects of the Draft texts

The real income generated globally as a consequence of the ordering of the international agricultural trade regime according to the Falconer Draft is estimated to increase by 4 billion US \$ per year in 2001 prices, see table 3. Combined with the Stephenson Draft on NAMA the income gains increases to 52.5 billion US \$. This income gain corresponds to an increase of about 0.1 % or about half the official development assistance provided by rich countries to the developing countries.

The presently remaining significant barriers to international trade in agricultural products rest within the market access area. In fact, a World Bank study estimating the cost (or potential benefits) of present protectionist agricultural measures shows that 80 % of these costs are generated by market access restrictions. The provisions of the Falconer Draft regarding general tariff reductions are countered by the demands for exemptions for sensitive and special products. According to a study by the World Bank, exempting just 2 % of tariff lines from reduction by designating them as sensitive products would remove around 90 % of the benefits from market access liberalisation. In our model analysis 6-8 % of tariff lines are designated as sensitive as specified in the Falconer Draft. Furthermore, in all probability the products with the highest present tariffs in any given country are also *eo ipso* the most politically opportune to designate as sensitive implying only modest gains from liberalisation efforts in the market access area. Hence, the small number of only 4 billion US \$ in income gain is the outcome.⁹ This result is in the lower range since we have not

⁹ The detrimental effects of domestic support policies in developed countries have been reduced substantially through reform efforts already undertaken not least by the European Union. The former trade and production distorting support mechanisms in the EU have been converted into single farm payments, which have only minimal bearing upon the production decisions of the farmers. Furthermore, the world price weighing export subsidies have been all but eliminated both as a consequence of political decisions within the European Community, from which by far the major export subsidies derived until recently, a promise to eliminate them entirely by 2015 and perhaps more importantly the quite dramatic increases in world prices on agricultural products thereby removing the causes for the subsidies. The only remaining significant contribution to domestic support reduction could possibly come from the US, contingent upon the Farm Bill 2008 outcome.

modelled tariff escalation and tariff rate quotas, which should conceivably compensate to some extent for sensitive products.

The increases advances in income generation generated by the two Draft tests are not evenly distributed among the regions in the world. The United States barely achieves a positive growth in gdp and the EU will only experience modest gains. On the other hand, Africa and in particular Latin America are expected to secure the largest increases in gdp. In terms of total welfare the United States experiences a fall of 1.2 billion US \$, which is due to a deterioration of the US terms of trade conditions resulting from market access liberalisations. This decline in terms of trade is fairly evenly distributed among agricultural products and non-agricultural product with a slightly more worsening of the former product group.

Abolishment of export subsidies in developed countries lead to higher food prices for the net food importing African continent, a worsening of the terms of trade, however, this deterioration is more than outweighed by efficiency gains and increased capital accumulation resulting from better market access for particularly non-agricultural products. Thus, Africa as a whole achieves a welfare increase of about 1.8 billion US \$. Likewise, the fast growing economies of China, India and Brazil along with most other developing countries gain primarily on better market access for non-agricultural products.

The European Union also gains on improved NAMA conditions and removal of export subsidies although the market access liberalisations for agricultural products reduce EU welfare, see table 2. Nevertheless, an increase of 6.9 billion US \$ in total welfare for the EU is the predicted outcome of the Agricultural and the NAMA Drafts. Specifically, the gains accrue from efficiency improvements with some derived from capital accumulation. The terms of trade effect is, however, negative for the EU caused by lowering of import barriers on agricultural products. Consequently, the EU as a whole experiences a decline in welfare resulting from the more open agricultural domestic market. However, this decline is far exceeded by the gains from improved access for EU non-agricultural products. Likewise, the abolishment of export subsidies benefits European taxpayers. The overall increase in welfare is quite heterogeneously distributed among the EU member countries. Recently acceded EU members generally lose or break even, whereas Italy, UK, France and also Denmark are the biggest winners. Again, the improved NAMA access accounts for the welfare gains except for Denmark, which wins on both NAMA and on Agriculture and even wins considerably more on the latter. Actually, Denmark by far receives the biggest benefits of EU countries from the opening up of agricultural markets although the numbers are not particularly high.

In total, the World generates 52.5 billion US \$ more welfare as a consequence of the Falconer and Stephenson Drafts provisions. By far, the highest contribution is derived from the NAMA liberalisations. Divided into economic effects the welfare improvement is distributed fairly evenly between efficiency gains and increases in capital accumulation, whereas the terms of trade effects on the global level averages out.

Turning to the contributions from specific products table 4 displays the effect on welfare from both agricultural and non-agricultural commodities. Agricultural products provide only app. 4 billion US \$ to global welfare. Oil seeds benefits most from the provisions in the Falconer Draft, but also Sugar and Bovine meat gains. These product categories are some of the most regulated in the

present agricultural trade regime, wherefore the partly liberalisation of these distortionary policies benefits the economies. The oil seed benefits accrue almost entirely to Asia,

Perhaps a bit peculiar, wheat contributes negatively to the global welfare. However, this outcome can be referred almost entirely to a drastic increase in wheat exports from Mexico to Switzerland in the model¹⁰.

The major benefits of lower tariffs in the international trade arena, although not necessarily less regulated, derives from the non-agricultural products. Particularly, the more manufactured items such as textile, machinery, electronics, etc. benefits, whereas natural resources and goods with only a minimum of value added gains very little. This result reflects predominantly the fact that the NAMA part of the global economy is much larger than the agriculture part. Likewise, manufactured products make up a larger part of NAMA than low value added products. Furthermore, tariffs on manufactured products are generally higher than on low value added products leading to larger effects of percentage tariff reductions. Hence, the higher reductions on manufactures show up in the predicted contributions to global welfare.

¹⁰ Switzerland has very high, probably prohibitive, tariffs on wheat, which are lowered according to the Falconer Draft. Because Mexico has some export to Switzerland, presumably through some form of tariff rate quota, these exports increase dramatically with the lowering of average tariffs on wheat in Switzerland, since tariff quotas are not explicitly represented in the model, even though the average tariffs are probably still prohibitive after the tariff reduction. Thus, this highlights the fact that the intricate and very detailed regulations and access barriers existing in many countries regarding agricultural products is difficult to capture completely in a single model.

Table 2. Impacts of the Falconer Draft: Sector and Macroeconomic indicators, EU 27

	GDP growth	Total welfare	of Total welfare			of Total welfare		
			Export subsidy abolishment	Agricultural Market access	Non- Agricultural Market access	Allocative efficiency	Capital Accumulation	Terms of Trade
	%		Million 2001 US \$					
Belgium/Luxembourg	0.17	120	15	-33	138	313	116	-308
Denmark	0.27	727	27	523	177	220	179	329
Germany	0.05	451	238	-582	795	674	133	-356
Greece	0.12	101	17	55	29	204	-11	-92
Spain	0.09	378	94	-611	894	357	212	-191
France	0.08	1,028	179	-746	1,595	681	374	-28
Ireland	0.24	326	83	-8	251	191	122	14
Italy	0.14	1,344	203	-509	1,650	729	708	-93
Netherlands	0.13	486	63	234	189	473	60	-47
Austria	0.20	318	38	45	235	165	180	-27
Portugal	-0.01	-104	10	18	-132	40	-29	-115
Finland	0.18	238	49	23	166	143	86	10
Sweden	0.12	384	53	91	240	155	94	135
United Kingdom	0.10	1,231	100	84	1,046	1,094	379	-243
Bulgaria	0.21	112	126	6	-20	98	-22	37
Cyprus/Malta	0.53	82	54	15	13	57	17	9
Czech Republic	-0.04	-53	36	-47	-42	91	-82	-62
Hungary	-0.02	-55	53	-62	-47	40	-39	-56
Poland	0.02	-61	93	-192	38	177	-102	-136
Romania	-0.27	-163	3	-19	-147	39	-107	-95
Slovakia	-0.10	-34	11	-14	-31	10	-25	-20
Slovenia	0.18	60	78	-25	6	96	-37	0
Estonia	0.01	4	19	-12	-3	19	-13	-1
Latvia	0.09	10	1	7	2	19	-6	-3
Lithuania	-0.47	-71	-32	-13	-26	6	-70	-6
EU 27	-	6,857	1,611	-1,770	7,016	6,088	2,117	-1,347

Source: Simulation results

Allocative efficiency shows the gains from reallocating resources from protected sectors to more competitive ones

Capital accumulation shows the dynamic gains until 2015 though investments generated by the Draft proposals

Terms of trade shows the effects of the changes to a countries' import prices relative to the countries' export prices

Table 3. Impacts of the Falconer Draft: Sector and Macroeconomic indicators, Other Regions

	GDP growth	Total welfare	Export subsidy abolishment	of Total welfare Agricultural Market access	Non-Agricultural Market access	Allocative efficiency	of Total welfare Capital Accumulation	Terms of Trade
	%							
Egypt	0.80	609	-28	53	584	351	596	-338
Uganda	-0.01	-6	-1	-7	1	-1	0	-5
South Africa	0.17	224	20	-34	239	139	64	21
Rest of Africa	0.21	930	-362	623	670	602	284	45
Africa, total	-	1,757	-371	635	1,494	1,091	943	-277
Mexico	0.87	5,358	-353	-1,865	7,576	3,404	2,580	-626
Brazil	0.45	2,566	127	690	1,749	993	1,300	273
Argentina	0.26	793	85	-10	718	292	426	75
Rest of Latin America	0.24	2,086	-131	58	2,159	499	1,004	582
Latin America, total	-	10,803	-271	-1,128	12,202	5,188	5,311	304
China	0.31	7,900	-49	78	7,870	2,152	4,259	1,488
India	0.28	2,134	-2	416	1,720	869	1,425	-160
Rest of Asia	0.30	18,411	-272	4,491	14,193	9,101	6,761	2,549
United States	0.02	-1,203	565	-1,030	-739	656	1,405	-3,264
Canada	0.08	529	179	54	296	369	208	-48
Rest of World	0.18	5,277	-713	1,516	4,474	2,443	2,093	741
Other countries, total (Rest of world + Canada)	-	5,806	-534	1,570	4,770	2,812	2,301	693
EU 27	-	6,857	1,611	-1,770	7,016	6,088	2,117	-1,347
Total World	-	52,464	677	3,262	48,525	27,957	24,522	-15

Source: Simulation results

Allocative efficiency shows the gains from reallocating resources from protected sectors to more competitive ones

Capital accumulation shows the dynamic gains until 2015 though investments generated by the Draft proposals

Terms of trade shows the effects of the changes to a countries' import prices relative to the countries' export prices

Table 4. Contributions from reducing export subsidies and tariffs to the Global welfare by commodity (million 2001 US\$)

Product	Global EV
Rice	102
Wheat	-1,020
Other cereals	-143
Vegetables, fruit and nuts	409
Oil seeds	1,917
Sugar cane beet	2
Plant based fibers	-17
Crops n.e.c.	327
Bovine Cattle, sheep, goats, horses	-49
Animal products n.e.c.	-258
Milk	0
Wool and silk	-4
Bovine meat products	1,256
Other meat products	-152
Vegetable oils and fats	-158
Dairy products	777
Processed rice	847
Sugar	1,178
Food products n.e.c.	-269
Beverages and tobacco products	-806
Total agriculture	3,939
Natural resources	540
Textiles	5,611
Wearing apparel	5,846
Leather products	3,793
Wood products	516
Paper products published	76
Petroleum, coal products	54
Chemical, rubber, plastic products	2,455
Mineral products n.e.c.	887
Ferrous metals	2,113
Metals n.e.c.	421
Metal products	1,732
Motor vehicles and parts	6,419
Transport equipment n.e.c.	1,919
Electronic equipment	4,356
Machinery and equipment n.e.c.	10,167
Manufactures n.e.c.	1,622
Total NAMA	48,525
Total, Agriculture plus NAMA	52,464